

REPORT ON BOILERS.

No. 93536

Received at London Office -9 MAR 1936

Date of writing Report

19

When handed in at Local Office

6/3/1036 Port of

NEWCASTLE-ON-TYNE

No. in
Reg. Book.

Survey held at

Newcastle on Tyne

Date, First Survey

27 Aug. 1935

Last Survey

5th Mar. 1936

on the

Steel S.S. Motorship "MACTRA"

(Number of Visits

Tons

Gross 5267

Net 3627

Master

Built at

Newcastle (Walkers)

By whom built Siran Hunter & Wigham

Richardson & Co

Yard No. 1511

When built 1936

Engines made at

Newcastle (St. Peters)

By whom made

R & W Hawthorn Leslie & Co Ltd

Engine No. 3852

When made 1936

Boilers made at

do (Walkers)

By whom made

Siran Hunter & Wigham Richardson & Co

Boiler No. 1488

When made 1936

Nominal Horse Power

Owners Anglo Saxon Petroleum Co Ltd

Port belonging to LONDON.

MULTITUBULAR BOILERS - ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

The Steel Coy of Scotland, Furnace plates by Parkhead & Co, Rotherham (Letter for Record)

Total Heating Surface of Boilers

2565 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

oil & waste heat.

No. and Description of Boilers

One 3 furnace multi-tubular Scotch

Working Pressure

180 lbs/sq

Tested by hydraulic pressure to

320

Date of test

11/12/35

No. of Certificate

654

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

oil fired

No. and Description of safety valves to each boiler

Two Spring loaded Super High Lift type

Area of each set of valves per boiler

per Rule 9.61

as fitted 9.82

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No main Boiler (oil engines)

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Boiler on flat above E.R.

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

14'-5 3/16"

Length

11'-4 1/2"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 5/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

dble riv. overlap

long. seams

treble rivets, dble butt strap

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams 1 3/16"

Pitch of rivets

4.417"

Percentage of strength of circ. end seams

plate 70.28%

rivets 42.02%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.60%

rivets 86.32%

combined 88.47%

Working pressure of shell by Rules

182 lbs/sq

Thickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

3 Morrison Suspension Type

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-8 3/8" (44 3/8")

Length of plain part

top 8 3/4"

bottom 2'-4 1/8" (c.c. bottom)

Thickness of plates

crown 9/16"

bottom 1"

Description of longitudinal joint

fire weld

Dimensions of stiffening rings on furnace or c.c. bottom

none

Working pressure of furnace by Rules

184 lbs/sq

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/8"

Pitch of stays

19" x 16 3/4"

How are stays secured

Screwed thro plates, & nuts inside & outside

Working pressure by Rules

182 lbs/sq

Tube plates: Material

front Steel

back

Tensile strength

26 to 30 tons

Thickness

1 3/16"

Mean pitch of stay tubes in nests

9.726"

Pitch across wide water spaces

14 3/16" x 7 7/8"

Working pressure

front 189 lbs

back 249 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre

9" x 1 1/4"

Length as per Rule

30 1/32"

Distance apart

9 1/2"

No. and pitch of stays

in each

3 @ 8"

Working pressure by Rules

184 lbs/sq

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

3/4"

Back

25/32"

Top

3/4"

Bottom

1"

Pitch of stays to ditto: Sides

8" x 7 1/2"

Back

9 1/4" x 8 1/8"

Top

9 1/2" x 8"

Are stays fitted with nuts or riveted over

rivets over

Working pressure by Rules

190 lbs/sq

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 5/16"

Pitch of stays at wide water space

14 1/2" x 8 1/2"

Are stays fitted with nuts or riveted over

with nuts

Working Pressure

256 lbs (min)

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay, 3" dia

Over threads

No. of threads per inch

6

Area supported by each stay

(19 1/2" x 17 1/2") - 6.1

Working pressure by Rules

200 lbs/sq

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part, 1 5/8"

Over threads

8 1/2"

No. of threads per inch

9

Area supported by each stay

1 5/8" = (9 1/2" x 8") - 1.7

1 1/2" = (8" x 7 1/2") - 1.45

Working pressure by Rules 205 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 7/8; 1 3/4; 1 5/8
No. of threads per inch 9 Area supported by each stay (9 x 9 1/4) - 1.7 Working pressure by Rules 186 lb
Tubes: Material IRON External diameter { Plain 2 3/4 o/d Stay 2 3/4 o/d Thickness { 9 WG 3/8, 5/16, 1/4 No. of threads per inch 9
Pitch of tubes 3 15/16 x 3 55/64 Working pressure by Rules 183 lb Manhole compensation: Size of opening in
shell plate 16" Section of compensating ring 21 x 1 5/32 No. of rivets and diameter of rivet holes 32 of 1 3/8" dia
Outer row rivet pitch at ends 9 7/8 Depth of flange if manhole flanged 2 3/4 Steam Dome: Material none
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell

Type of Superheater none Manufacturers of { Tubes Steel castings
Number of elements Material of tubes Internal diameter and thickness of tubes
Material of headers Tensile strength Thickness Can the superheater be shut off and
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
tubes, castings and after assembly in place Are drain cocks or valves fitted
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.
The foregoing is a correct description,

G. J. Sheppard DIRECTOR

Dates of Survey { During progress of work in shops - - -
while building { During erection on board vessel - - -

See machy report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 21/6/35

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. M/S ELONA. Nw. Rpt No. 93417.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The Boiler has been constructed under special survey in accordance with the Rules and approved plan.

The Materials and workmanship are good, and the boiler was found satisfactory under hydraulic test.

The Boiler has been fitted on board and the Safety valves were adjusted under steam, and the vessel is eligible for the notation DB. 180 lb.

Survey Fee ... £ See machy Rpt When applied for, 19
Travelling Expenses (if any) £ When received, 19

A. Watt

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 13 MAR 1936

Assigned

See Nw. Rpt. 93536



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Foundation